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APPLICATION NO.	FILING DATE	FIRST NAMED INVENTOR	ATTORNEY DOCKET NO.	CONFIRMATION NO.
09/768,733	01/24/2001	Per Zeuthen	P/772-283	1229

24998 7590 12/13/2002

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EXAMINER	
GRIFFIN, WALTER DEAN	
ART UNIT	**PAPER NUMBER**
1764	

DATE MAILED: 12/13/2002

Please find below and/or attached an Office communication concerning this application or proceeding.

Office Action Summary	Application No. 09/768,733	Applicant(s) ZEUTHEN ET AL.	
	Examiner Walter D. Griffin	Art Unit 1764	

-- The MAILING DATE of this communication appears on the cover sheet with the correspondence address --

Period for Reply

A SHORTENED STATUTORY PERIOD FOR REPLY IS SET TO EXPIRE 3 MONTH(S) FROM THE MAILING DATE OF THIS COMMUNICATION.

- Extensions of time may be available under the provisions of 37 CFR 1.136(a). In no event, however, may a reply be timely filed after SIX (6) MONTHS from the mailing date of this communication.
- If the period for reply specified above is less than thirty (30) days, a reply within the statutory minimum of thirty (30) days will be considered timely.
- If NO period for reply is specified above, the maximum statutory period will apply and will expire SIX (6) MONTHS from the mailing date of this communication.
- Failure to reply within the set or extended period for reply will, by statute, cause the application to become ABANDONED (35 U.S.C. § 133).
- Any reply received by the Office later than three months after the mailing date of this communication, even if timely filed, may reduce any earned patent term adjustment. See 37 CFR 1.704(b).

Status

1)☒ Responsive to communication(s) filed on *23 October 2002* .

2a)☐ This action is **FINAL**. 2b)☒ This action is non-final.

3)☐ Since this application is in condition for allowance except for formal matters, prosecution as to the merits is closed in accordance with the practice under *Ex parte Quayle*, 1935 C.D. 11, 453 O.G. 213.

Disposition of Claims

4)☒ Claim(s) *1-8* is/are pending in the application.

4a) Of the above claim(s) _____ is/are withdrawn from consideration.

5)☐ Claim(s) _____ is/are allowed.

6)☒ Claim(s) *1-8* is/are rejected.

7)☐ Claim(s) _____ is/are objected to.

8)☐ Claim(s) _____ are subject to restriction and/or election requirement.

Application Papers

9)☐ The specification is objected to by the Examiner.

10)☐ The drawing(s) filed on _____ is/are: a)☐ accepted or b)☐ objected to by the Examiner.

Applicant may not request that any objection to the drawing(s) be held in abeyance. See 37 CFR 1.85(a).

11)☐ The proposed drawing correction filed on _____ is: a)☐ approved b)☐ disapproved by the Examiner.

If approved, corrected drawings are required in reply to this Office action.

12)☐ The oath or declaration is objected to by the Examiner.

Priority under 35 U.S.C. §§ 119 and 120

13)☒ Acknowledgment is made of a claim for foreign priority under 35 U.S.C. § 119(a)-(d) or (f).

a)☒ All b)☐ Some * c)☐ None of:

1.☒ Certified copies of the priority documents have been received.

2.☐ Certified copies of the priority documents have been received in Application No. _____ .

3.☐ Copies of the certified copies of the priority documents have been received in this National Stage application from the International Bureau (PCT Rule 17.2(a)).

* See the attached detailed Office action for a list of the certified copies not received.

14)☐ Acknowledgment is made of a claim for domestic priority under 35 U.S.C. § 119(e) (to a provisional application).

a) ☐ The translation of the foreign language provisional application has been received.

15)☐ Acknowledgment is made of a claim for domestic priority under 35 U.S.C. §§ 120 and/or 121.

Attachment(s)

1) ☐ Notice of References Cited (PTO-892)
2) ☐ Notice of Draftsperson's Patent Drawing Review (PTO-948)
3) ☐ Information Disclosure Statement(s) (PTO-1449) Paper No(s) _____ .
4) ☐ Interview Summary (PTO-413) Paper No(s). _____ .
5) ☐ Notice of Informal Patent Application (PTO-152)
6) ☐ Other: .

DETAILED ACTION

Response to Amendment

The rejections under 35 USC 112, second paragraph, as described in paper no. 2 have been withdrawn in view of the amendment filed on October 23, 2002. Also, the objection to the specification has been withdrawn in view of this amendment.

Claim Rejections - 35 USC § 102

The following is a quotation of the appropriate paragraphs of 35 U.S.C. 102 that form the basis for the rejections under this section made in this Office action:

> A person shall be entitled to a patent unless –
>
> (e) the invention was described in-
> (1) an application for patent, published under section 122(b), by another filed in the United States before the invention by the applicant for patent, except that an international application filed under the treaty defined in section 351(a) shall have the effect under this subsection of a national application published under section 122(b) only if the international application designating the United States was published under Article 21(2)(a) of such treaty in the English language; or
> (2) a patent granted on an application for patent by another filed in the United States before the invention by the applicant for patent, except that a patent shall not be deemed filed in the United States for the purposes of this subsection based on the filing of an international application filed under the treaty defined in section 351(a).

Claims 1-3 and 6-8 are rejected under 35 U.S.C. 102(e) as being anticipated by Okazaki et al. (6,264,827).

The Okazaki reference discloses a process for reducing the amount of sulfur compounds and polycyclic aromatic structures in a hydrocarbon feed. The process comprises contacting hydrogen and a feed whose boiling point is in the range of 200° to 430°C with a hydrogenation catalyst in a first reaction step. This first reaction step lowers the sulfur content of the feed by hydrodesulfurization. The resulting effluent from this first step is then cooled and passed to a

second step operated at a temperature that is from 70° to 200°C lower than the first step. In this second step, the effluent from the first step contacts a catalyst at hydrogenation conditions such that polycyclic aromatic compounds are removed. The LHSV for the first step is preferably 1 to 5 whereas the LHSV for the second step is preferably 4 to 12. The examples disclose an LHSV for the second step (i.e., 8) that is twice that for the first step (i.e., 4). The catalyst used in the second step may be nickel-molybdenum on a support such as alumina. While not explicitly stating that polyaromatic hydrocarbons are converted to mono-aromatic compounds in the second step, the process of Okazaki would necessarily result in this conversion because of the similarities between the disclosed and the claimed feeds, conditions, and catalysts. See col. 1, lines 50-67; col. 2, lines 1-13, 27-40, 48-57, and 62-67; col. 3, lines 1-14; col. 4, lines 3-8 and 38-67; col. 5, lines 3-12 and 33-39; and the examples.

Claim Rejections - 35 USC § 103

The following is a quotation of 35 U.S.C. 103(a) which forms the basis for all obviousness rejections set forth in this Office action:

> (a) A patent may not be obtained though the invention is not identically disclosed or described as set forth in section 102 of this title, if the differences between the subject matter sought to be patented and the prior art are such that the subject matter as a whole would have been obvious at the time the invention was made to a person having ordinary skill in the art to which said subject matter pertains. Patentability shall not be negatived by the manner in which the invention was made.

The factual inquiries set forth in *Graham* **v.** *John Deere Co.*, 383 U.S. 1, 148 USPQ 459 (1966), that are applied for establishing a background for determining obviousness under 35 U.S.C. 103(a) are summarized as follows:

1. Determining the scope and contents of the prior art.
2. Ascertaining the differences between the prior art and the claims at issue.
3. Resolving the level of ordinary skill in the pertinent art.

4. Considering objective evidence present in the application indicating obviousness or nonobviousness.

This application currently names joint inventors. In considering patentability of the claims under 35 U.S.C. 103(a), the examiner presumes that the subject matter of the various claims was commonly owned at the time any inventions covered therein were made absent any evidence to the contrary. Applicant is advised of the obligation under 37 CFR 1.56 to point out the inventor and invention dates of each claim that was not commonly owned at the time a later invention was made in order for the examiner to consider the applicability of 35 U.S.C. 103(c) and potential 35 U.S.C. 102(e), (f) or (g) prior art under 35 U.S.C. 103(a).

Claim 4 is rejected under 35 U.S.C. 103(a) as being unpatentable over Okazaki et al. (6,264,827) in view of Inwood (3,691,060).

As discussed above, the Okazaki reference does not disclose a process wherein the second step is performed in a final catalyst bed of the hydrotreating zone.

Inwood discloses that hydrogenation processes that employ two catalysts can equivalently use two separate reactors or a single reactor in which the two catalysts are disposed. See col. 2, lines 17-30.

It would have been obvious to one having ordinary skill in the art at the time the invention was made to have modified the process of Okazaki by utilizing one reactor in which both catalysts are disposed thereby resulting in a final catalyst bed containing the step two catalyst as suggested by Inwood because it is more economical to employ a single reactor.

Claim 5 is rejected under 35 U.S.C. 103(a) as being unpatentable over Okazaki et al. (6,264,827).

As discussed above, the Okazaki reference does not disclose a process that utilizes a feedstock having a 50% boiling point between 300° and 450°C.

It would have been obvious to one having ordinary skill in the art at the time the invention was made to have modified the process of Okazaki by utilizing a feedstock having a

50% boiling point between 300° and 450°C because such a feed is chemically and physically similar to those disclosed and therefore would be expected to be effectively treated in the process.

Double Patenting

The nonstatutory double patenting rejection is based on a judicially created doctrine grounded in public policy (a policy reflected in the statute) so as to prevent the unjustified or improper timewise extension of the "right to exclude" granted by a patent and to prevent possible harassment by multiple assignees. See *In re Goodman*, 11 F.3d 1046, 29 USPQ2d 2010 (Fed. Cir. 1993); *In re Longi*, 759 F.2d 887, 225 USPQ 645 (Fed. Cir. 1985); *In re Van Ornum*, 686 F.2d 937, 214 USPQ 761 (CCPA 1982); *In re Vogel*, 422 F.2d 438, 164 USPQ 619 (CCPA 1970); and, *In re Thorington*, 418 F.2d 528, 163 USPQ 644 (CCPA 1969).

A timely filed terminal disclaimer in compliance with 37 CFR 1.321(c) may be used to overcome an actual or provisional rejection based on a nonstatutory double patenting ground provided the conflicting application or patent is shown to be commonly owned with this application. See 37 CFR 1.130(b).

Effective January 1, 1994, a registered attorney or agent of record may sign a terminal disclaimer. A terminal disclaimer signed by the assignee must fully comply with 37 CFR 3.73(b).

Claims 1-8 are provisionally rejected under the judicially created doctrine of obviousness-type double patenting as being unpatentable over claims 1-9 of copending Application No. 09/768954. Although the conflicting claims are not identical, they are not patentably distinct from each other because each set of claims is drawn to process for reducing sulfur compounds and polyaromatic hydrocarbons in a hydrocarbon feed by contacting the feed with hydrogen in two hydrotreating zone with cooling of the effluent from the first zone. The feeds in each set of claims have overlapping boiling ranges and each claimed process uses the same type of catalyst.

This is a provisional obviousness-type double patenting rejection because the conflicting claims have not in fact been patented.

Response to Arguments

The argument that the Okazaki reference does not teach or suggest a process for reducing the content of sulfur compounds and polyaromatic hydrocarbons by contacting the hydrotreated effluent with a hydrotreating catalyst at conditions being effective for conversion of polyaromatic hydrocarbons to mono-aromatic compounds is not persuasive because the Okazaki process would necessarily result in the conversion of polyaromatic hydrocarbons to mono-aromatic compounds because of the similarities between the disclosed and claimed processes. The reference to "ring opening" in the Okazaki reference is in relation to the first step of the process and not the second step. Okazaki discloses the removal of polyaromatic structures in the second step. The teaching of removal of these polyaromatic structures does not teach away from conversion of these structures to mono-aromatic structures.

Conclusion

Any inquiry concerning this communication or earlier communications from the examiner should be directed to Walter D. Griffin whose telephone number is 703-305-3774. The examiner can normally be reached on Monday-Friday 6:30 to 4:00 with alternate Fridays off.

If attempts to reach the examiner by telephone are unsuccessful, the examiner's supervisor, Glenn Caldarola can be reached on 703-308-6824. The fax phone numbers for the

organization where this application or proceeding is assigned are 703-872-9310 for regular communications and 703-872-9311 for After Final communications.

Any inquiry of a general nature or relating to the status of this application or proceeding should be directed to the receptionist whose telephone number is 703-308-0651.

Walter D. Griffin
Primary Examiner
Art Unit 1764

WG
November 21, 2002